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TI Waterproofing and freeze-resistant **shotcrete** mortar compositions  
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PA Russia  
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LA Russian  
IC ICM C04B028-04  
ICS C04B028-04; C04B022-06; C04B024-22  
CC 58-3 (Cement, Concrete, and Related Building Materials)  
FAN.CNT 1

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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	RU 2152914	C1	20000720	RU 1999-102154	19990209
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CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2000047534	ICM	C04B028-04
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AB The mortar compns. contain (a) an additive-free Portland cement having 58-62 % of alite C3S; (b) microsilica; (c) a fine filler; (d) a S 3 **superplasticizer**; a powd. composite additive having the sp. surface area of (4-4.5) .times. 103 cm<sup>2</sup>/g; and (e) a mixt. contg. a clinker cement with a C3A content of 8-12 %, ground quartz sand, and dry C 3 powder according to a ratio of 5:4:1, resp. The **shotcrete** compns. further includes ground quartz sand having a sp. surface area of (3.5-4) .times. 103 cm<sup>2</sup>/g and water. The resulting mortars may be used in the manuf. of reinforced-concrete structures as well as in guniting and cementing operations. The mortars are water-proofing and exhibit high mech. strength, d., corrosion- and freeze-resistance, and in the context of guniting and cementing operations, has improved sealing and water-insulation properties. According to their use, the **shotcrete** compns. contain as a filler quartz sand having a fraction of 1.25-2.5 mm and/or quartz sand having a fraction of .ltoreq.0.14 mm, or a mixt. of sand and gravel having particle size of 2-5 mm.

ST **shotcrete** mortar cement concrete guniting waterproofing

- Portland cement
- microsilica
- fine filler
- sand
- superplasticizer

Claims 1, 2, 4, 9-11